

AMENDMENTS TO THE SPECIFICATION:

Beginning on page 2 line 20 please amend the paragraph to read as follows:

Secondly, a satellite has only a limited operating range. On the other hand, the Airplanes are travelling around the globe, so communication link with one satellite would not be sufficient for providing good quality service for the passengers. It is not either possible to change the satellite link to another satellite because there is no procedure e.g. in the GSM system for changing the BTS location. The BTS-BSC parameters are static and they are related to each other. In an aircraft application there is no information available which satellite and which BSC would be a the new target BSC for which BTS should be updated.

Beginning on page 4 line 7 please amend the paragraph to read as follows:

The Embodiments of the present invention can be easily implemented to existing communication systems. BTS and BSC may have standard GSM signalling properties and messages, such as system information messages. Satellite communication may also have it's own signalling methods to reserve/release the satellite channels. When the satellite communication link is open, standard GSM signalling takes place through satellite communication and standard call reservation/release takes place. Satellites and ground stations can be changed (satellite handover) and the satellite system preferably takes care of routing update for signalling.

Beginning on page 4 line 25 please amend the paragraph to read as follows:

A further advantage of certain embodiments of the invention is that ~~the enables~~ they enable keeping the mobile stations inside an aircraft camped to the base station of the aircraft even if there would not be a connection to a terrestrial network available at the moment. This way it is possible to avoid that mobile stations would try to camp to terrestrial base stations and thus cause

possible interference.

In the Brief Description of the Drawings section on page 6 line 13 please amend the Figure 2 description as follows:

Figure 2 shows a flow diagram of ~~and~~ an exemplary method according to the invention for controlling satellite communication and providing state signalling,

Beginning on page 7 line 1 please amend the paragraph to read as follows:

FIG. 1a shows a general block diagram for an embodiment of the wireless cellular communication system according to the invention. Information is transferred between a mobile terminal 102 and a first network device 104 in an indoor cell or network 100 inside an aircraft via antenna 106. The mobile terminal 102 is connected via the first network device 104 to the second network device 120 of a terrestrial network outside the aircraft and the second network device is capable of communicating with external networks 150. The transmission from the first network device 104 of the indoor cell or indoor network to the second network device 120, and vice versa, is routed via a satellite link 140 using antennas 112 and 122.

Beginning on page 8 line 4 please amend the paragraph to read as follows:

The signalling information is relayed from the BTS104 to the BSC 120, and vice versa. There is used a satellite link connection to route the wireless connection between the BTS and the BSC and the communication is compliant with external networks, e.g. terrestrial GSM networks. The satellite link is typically off when there is not any traffic, but the mobile communication presumes a non-stop connection. According to the invention the satellite link connection between the BTS and the BSC comprises e.g. switching modules 110, 124 to switch signalling channels and intervals according to allocations so that the link is off when no traffic occurs. As shown in FIG. 1 b the switching module 110 of the BTS is coupled to a central processing unit CPU 111

with a memory MEM 113 and includes an emulator 114 which emulates LAPD link to the BTS as if the BTS would be wirelessly connected to the BSC while there is not any transmission between the BTS and BSC. In the corresponding way as shown in FIG. 1 c the switching module 124 of the BSC is coupled to a central processing unit CPU 115 with a memory MEM 117 and includes an emulator 123 which emulates LAPD link to the BSC as if the BSC would be wirelessly connected to the BTS while there is not any transmission between the BTS and BSC. The emulators 114, 123 play the role towards the BTS and the BSC as if they were wirelessly connected all the time according to the specifications of GSM networks, while in reality the satellite communication link is off if there is not any traffic.

Beginning on page 10 line 17 please amend the paragraph to read as follows:

When the NMS informs a control message requirement, 450, the Abis emulator at the BSC side opens the satellite communication connection, 452, 454. A signalling connection is established between the BSC and the BTS, 455-458, and the signalling messages are transferred. After the NMS initiated control procedure is completed, the Abis emulator 410 disconnects the satellite communication, 460. The satellite connection thus returns to the OFF state 462 and the states of the BTS and the BSC are emulated by the emulators, 464, 466.

Beginning on page 11 line 15 please amend the paragraph to read as follows:

FIG. 5a illustrates another embodiment for transferring IP data. In this embodiment IP data including data to/from a base transceiver station BTS 504 via a satellite 592 is routed directly between the satellite land station 594 and the Internet 595. In such an arrangement the Abis emulator 506 preferably controls the Quality of Service (QoS) in such a way that Abis connections always have priority over IP data users in order to ensure a sufficient quality for connections to mobile network. The emulator thus needs to always dedicate the required Abis connectivity per usage.

Beginning on page 11 line 22 please amend the paragraph to read as follows:

FIG. 5b illustrates a further embodiment for transferring data for Abis connections and IP. In this embodiment IP data is also routed directly between the satellite land station 594 and the Internet 595, but the data of the Abis connections such as to/from the base station controller BSC 520 connected to the mobile switching center MSC 530 is also routed through an IP type backbone 596 between the satellite land station 594 and the Abis emulator 510. In this case Abis data is transmitted over IP link end-to-end and the emulators perform the necessary IP encapsulation of the data. Also in this arrangement the Abis emulator 506 preferably controls the Quality of Service (QoS) in such a way that Abis connections always have priority over other IP capacity/data users in order to ensure a sufficient quality for connections to mobile network.